

**NATURAL RESOURCES CONSERVATION SERVICE
MISSOURI CONSTRUCTION SPECIFICATION**

GRASSED WATERWAY

CODE 412

GENERAL

Construction operations shall be carried out in such a manner and sequence such that erosion and air and water pollution will be minimized and held within legal limits. **A land disturbance permit from the Missouri Department of Natural Resources may be needed if the disturbed area is greater than one (1) acre in size.**

The completed job shall present a workmanlike appearance and shall conform to the line, grades, and elevations shown on the drawings or as staked in the field.

All operations shall be carried out in a safe and skillful manner. Safety and health regulations shall be observed and appropriate safety measures used. The contractor shall be assured that all state laws concerning buried utilities are met prior to beginning work.

Construction shall be according to the requirements as specified in the plans and specifications.

The contractor is responsible for having all utilities located at the site according to Missouri state laws prior to beginning work.

SITE PREPARATION

All trees, stumps, roots, brush, weeds, and other unacceptable material shall be removed from the site and disposed of without degrading the environment or visual resources.

WATERWAY CONSTRUCTION

When subsoil material in the waterway is inadequate to establish a good seed-bed, the best available soil will be stockpiled and respread uniformly to a depth of at least six (6) inches over the waterway, which will be undercut to accommodate the stockpiled soil material. The excavated material shall be deposited in side dikes or low areas in the field where it will not interfere with the flow of water into the waterway and will compliment normal use of the land. Fills shall be compacted as needed to prevent unequal settlement that would cause damage in the completed waterway.

The waterway shall be shaped to the grade, width, and depth shown on the drawings. The waterway shall be constructed so the design top width occurs at the design water depth measured from the bottom of the constructed waterway.

Temporary dikes, high enough to divert runoff water from the new grass seeding until the vegetation is well established, may be constructed around the top and sides of the waterway. These dikes shall be removed when vegetation is established.

SEEDING AND MULCHING

Topsoil shall be added, if needed, to establish vegetation. Refer to JS-AGRON-25 or equivalent for seeding and mulching recommendations.

Additional Details: _____

**NATURAL RESOURCES CONSERVATION SERVICE
MISSOURI OPERATION AND MAINTENANCE**

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OPERATION AND MAINTENANCE

A maintenance program shall be established to maintain grassed waterway capacity, vegetative cover, and the outlet.

Vegetation damaged must be repaired promptly. University of Missouri Agricultural Guide 1504 "Maintaining Grassed Waterways" provides information on the maintenance of grassed waterways.

- *Vegetation damaged by machinery, herbicides, or erosion must be repaired promptly. Inspect grassed waterways regularly, especially following heavy rains. Fill, compact, and reseed damaged areas immediately. Remove sediment deposits to maintain capacity of grassed waterway.*
- *Protect waterway from concentrated flow by using diversion of runoff or mechanical means of stabilization such as silt fences, mulching, haybale barriers and etc. to stabilize grade during vegetation establishment.*
- *Minimize damage to vegetation by excluding livestock whenever possible, especially during wet periods. Permit grazing in the waterway only when a controlled grazing system is being implemented.*
- *Avoid use of herbicides that would be harmful to the vegetation in and adjacent to the waterway area.*
- *Avoid using waterways as turn-rows during tillage and cultivation operations.*
- *Do not use waterways as a field road. Avoid crossing with heavy equipment when wet.*
- *Mow or periodically graze vegetation to maintain capacity and reduce sediment deposition. Mowing may be appropriate to enhance wildlife values, but must be conducted to avoid peak nesting seasons and reduced winter cover.*
- *Apply supplemental nutrients as needed to maintain the desired species composition and stand density of the waterway.*
- *Control noxious weeds.*

Additional Details:
